

**WHAT IS CLAIMED IS:**

1       1. A method of moderating traffic load on network servers in a network where  
2       electronic mail is retained for retrieval from at least one mail server, the method  
3       comprising:

4               permitting a mail request for a mail client to pass through a proxy server to the  
5       mail server; and

6               attenuating subsequent mail requests for the mail client at the proxy server until a  
7       predetermined condition has been satisfied.

1               2. The method of claim 1, wherein the predetermined condition is a predetermined  
2       period of time.

1               3. The method of claim 2, wherein the predetermined period of time is  
2       dynamically determined based on the amount of traffic load on the network.

1               4. The method of claim 1, wherein the predetermined condition is a combination  
2       of a predetermined time period and receipt of a notification from the mail server that mail  
3       has been received for the mail client at the mail server, whichever occurs first.

1               5. The method of claim 4, wherein the predetermined period of time is  
2       dynamically determined based on the amount of traffic load on the network.

1               6. The method of claim 1, wherein attenuating subsequent mail requests is  
2       suspended in the event it is determined that a user is manually initiating rapidly repeated  
3       mail requests.

1           7. The method of claim 1, wherein attenuating includes blocking the subsequent  
2 mail requests from transmission across the network to the mail server.

1           8. The method of claim 1, wherein the predetermined condition is independent of  
2 time.

1           9. A method of managing bandwidth usage in a network where electronic mail is  
2 retained for retrieval from at least one mail server, the method comprising:  
3           selecting a time when network bandwidth load is low; and  
4           pushing unretrieved mail messages to a proxy server at the selected time, wherein  
5 the pushed mail messages are cached at the proxy server.

1           10. The method of managing bandwidth usage of claim 9, wherein selecting a time  
2 is based on when bandwidth load at a predetermined point in the network falls below a  
3 predetermined threshold.

1           11. The method of managing bandwidth usage of claim 9, wherein selecting a time  
2 is based on a predetermined time of day.

1           12. A proxy server for use in a network where electronic mail is retained for  
2 retrieval from at least one mail server, the proxy server comprising:

3           a processor, and

4           a memory including software instructions adapted to enable the proxy server to  
5 perform the steps of:

6           permitting a mail request for a mail client to pass through the proxy server to  
7 the mail server; and

8                   attenuating subsequent mail requests for the mail client at the proxy server  
9                   until a predetermined condition has been satisfied.

1                   13. The proxy server of claim 12, wherein the predetermined condition is a  
2                   predetermined period of time.

1                   14. The proxy server of claim 13, wherein the predetermined period of time is  
2                   dynamically determined based on the amount of traffic load on the network.

1                   15. The proxy server of claim 12, wherein the predetermined condition is a  
2                   combination of a predetermined time period and receipt of a notification from the mail  
3                   server that mail has been received for the mail client at the mail server, whichever occurs  
4                   first.

1                   16. The proxy server of claim 15, wherein the predetermined period of time is  
2                   dynamically determined based on the amount of traffic load on the network.

1                   17. The proxy server of claim 12, wherein attenuating subsequent mail requests is  
2                   suspended in the event it is determined that a user is manually initiating rapidly repeated  
3                   mail requests.

1                   18. The proxy server of claim 12, wherein attenuating includes blocking the  
2                   subsequent mail requests from transmission across the network to the mail server.

1                   19. The proxy server of claim 12, wherein the predetermined condition is  
2                   independent of time.

1        ~~20.~~ A mail server for use in a network where electronic mail is retained for  
2 retrieval from the mail server, the mail server comprising:  
3            a processor, and  
4            a memory including software instructions adapted to enable the proxy server to  
5 perform the steps of:  
6            selecting a time when network bandwidth load is low; and  
7            pushing unretrieved mail messages to a proxy server at the selected time,  
8            wherein the pushed mail messages are cached at the proxy server.

1            21. The mail server of claim 20, wherein selecting a time is based on when  
2 bandwidth load at a predetermined point in the network falls below a predetermined  
3 threshold.

1            22. The mail server of claim 20, wherein selecting a time is based on at a  
2 predetermined time of day.

1        ~~23.~~ A network comprising:  
2            at least one mail server where electronic mail is retained for retrieval by mail  
3 clients;  
4            a plurality of proxy servers distributed about the network;  
5            wherein the mail server caches unretrieved mail messages at the proxy servers.

1            24. The network of claim 23, wherein unretrieved mail messages are cached at a  
2 selected time.

1           25. The network of claim 24, wherein the selected time is determined to be when  
2 bandwidth load at a predetermined point in the network falls below a predetermined  
3 threshold.

1           26. The network of claim 24, wherein the selected time is a predetermined time of  
2 day.

1           27. The network of claim 23, wherein the mail server synchronizes with the  
2 plurality of proxy servers periodically to ensure that when changes are made to a message  
3 on the mail server or on the proxy server that the changes are reconciled.

1           ~~28.~~ A network comprising:  
2 at least one mail server where electronic mail is retained for retrieval by mail  
3 clients;

4 a plurality of proxy servers distributed about the network;

5 wherein each of the proxy servers comprises:

6 a processor, and

7 a memory including software instructions adapted to enable the proxy

8 server to perform the steps of:

9 permitting a mail request for a mail client to pass through the proxy

10 server to the mail server; and

11 attenuating subsequent mail requests for the mail client at the proxy

12 server until a predetermined condition has been satisfied.

1           ~~29.~~ A network comprising:

2 a mail server where electronic mail is retained for retrieval by mail clients;

3 a plurality of proxy servers distributed about the network;  
4 wherein the mail server comprises:  
5 a processor, and  
6 a memory including software instructions adapted to enable the mail server  
7 to perform the steps of:  
8 selecting a time when network bandwidth load is low; and  
9 pushing unretrieved mail messages to a proxy server at the selected  
10 time, wherein the pushed mail messages are cached at the proxy  
11 server.

1 30. The network of claim 29, wherein selecting a time is based on when  
2 bandwidth load at a predetermined point in the network falls below a predetermined  
3 threshold.

1 31. The network of claim 29, wherein selecting a time is based on at a  
2 predetermined time of day.